

PWS ID#: VA2660345

## Continuing Our Commitment

The City of Harrisonburg Department of Public Utilities is guided by the quest to emphasize allocation of funding and manpower toward efficient and effective operations to provide:

- A quality final product
- Service to our customers
- The development and empowerment of quality employees
- Emphasis upon reliability and maintenance of existing facilities
- Accommodations for future growth and economic priorities
- Price stability and cost effective operations



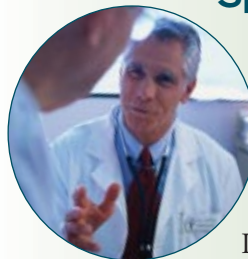
We are proud that our public water supply system is in compliance with all state and federal waterworks regulations. This report covers all testing completed from January through December 2002. During that time, there have been no violations of a contaminant level or of any other water quality standard. The Harrisonburg Water Treatment Plant routinely monitors for constituents in your drinking water and has made the commitment to deliver the best quality drinking water possible.

Contact our Director of Public Utilities, Michael Collins, at (540) 434-9959 if you have questions about this report or have water quality concerns. You may see updates of this report on our Web site at [www.ci.harrisonburg.va.us](http://www.ci.harrisonburg.va.us).

## Community Participation

We invite public participation in decisions that affect drinking water quality. The public is welcome to attend the city council meetings held at the Municipal Building at 345 South Main Street, Harrisonburg, VA, on the second and fourth Tuesdays of each month at 7:30 p.m.

## Special Health Information



Some people may be more vulnerable to contaminants in drinking water than the general population.

Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. USEPA and CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.

## Where Does My Water Come From?

**W**e currently have two reliable water supply sources. The Dry River in Rawley Springs is a surface water source. The watershed is small yet provides up to four million gallons per day and is the best quality water at the most cost effective price. The North River in Bridgewater is also a surface water source and provides up to eight million gallons per day. The water level of the North River fluctuates due to runoff conditions at the withdrawal site and is monitored during times of environmentally sensitive dry conditions. Our treatment facilities currently provide roughly 10 million gallons of clean drinking water every day. We are in the process of developing a supply line from the South Fork Shenandoah River and expanding our water treatment plant. Once these projects have been completed, we expect to provide a supply of 15 million gallons per day to our customers.

A source water assessment for the City of Harrisonburg was completed by the Virginia Department of Health on May 24, 2002. This assessment determined that the city's water sources, North River and Dry River, are surface waters exposed to a wide array of changing hydrologic, hydraulic, and atmospheric conditions. More specific information may be obtained by contacting the Harrisonburg Director of Public Utilities, Mr. Michael Collins.

## Contamination from Cross-connections

**C**ross-connections that could contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to equipment (boilers), systems containing chemicals (air conditioning systems, fire sprinkler systems, irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line (backpressure). Contamination can also occur when the pressure in the drinking water line drops due to fairly routine occurrences (main breaks, heavy water demand) causing contaminants to be sucked out from the equipment and into the drinking water line (backsiphonage).

Outside water taps and garden hoses tend to be the most common sources of cross-connection contamination at home. The garden hose creates a hazard when submerged in a swimming pool or when attached to a chemical sprayer for weed killing. Garden hoses that are left lying on the ground may be contaminated by fertilizers, cesspools or garden chemicals. Improperly installed valves in your toilet could also be a source of cross-connection contamination.

Community water supplies are continuously jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and maintained. We have surveyed all industrial, commercial, and institutional facilities in the service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. Owners of installed backflow devices may be required to certify inspection and operation annually.

For more information, visit the Web site of the American Backflow Prevention Association ([www.abpa.org](http://www.abpa.org)) for a discussion on current issues.



## Substances Expected to be in Drinking Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.



The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it can acquire naturally occurring minerals, in some cases, radioactive material; and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

**Microbial Contaminants**, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

**Inorganic Contaminants**, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

**Pesticides and Herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

**Organic Chemical Contaminants**, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and may also come from gas stations, urban stormwater runoff, and septic systems;

**Radioactive Contaminants**, which can be naturally occurring or may be the result of oil and gas production and mining activities.

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.



## Table Definitions

**AL (Action Level):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**MCL (Maximum Contaminant Level):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

**MCLG (Maximum Contaminant Level Goal):** The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

**NA:** Not applicable

**ND:** Not detected

**NTU (Nephelometric Turbidity Units):** Measurement of the clarity, or turbidity, of water.

**pCi/L (picocuries per liter):** A measure of radioactivity.

**ppb (parts per billion):** One part substance per billion parts water (or micrograms per liter).

**ppm (parts per million):** One part substance per million parts water (or milligrams per liter).

**TT (Treatment Technique):** A required process intended to reduce the level of a contaminant in drinking water.

# What's In My Water?<sup>1</sup>

We are pleased to report that during the past year, the water delivered to your home or business complied with, or did better than, all state and federal drinking water requirements. For your information, we have compiled a list in the table below showing what substances were detected in our drinking water during 2002. Although all of the substances listed below are under the Maximum Contaminant Level (MCL) set by the U.S. EPA, we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state requires us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

## REGULATED SUBSTANCES

SUBSTANCE (UNITS)	YEAR SAMPLED	MCL	MCLG	AMOUNT DETECTED	RANGE (LOW-HIGH)	VIOLATION	TYPICAL SOURCE
Alpha emitters (pCi/L)	2001	15	0	0.4	NA	No	Erosion of natural deposits
Beta/photon emitters (pCi/L) <sup>2</sup>	2001	50	0	1.2	NA	No	Decay of natural and man-made deposits
Combined radium (pCi/L)	2001	5	0	0.4	NA	No	Erosion of natural deposits
Fluoride (ppm)	2002	4	4	1.10	0.78-1.1	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2002	10	10	0.82	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2002	80	0	57	7-57	No	By-product of drinking water disinfection
Total Coliforms (% positive samples)	2002	5% positive samples	0	2	NA	No	Naturally present in the environment
Total Organic Carbon (ppm)	2002	TT	NA	0.92	0.31-0.92	No	Naturally present in the environment
Turbidity (NTU) <sup>3</sup>	2002	TT	NA	0.08	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from 30 homes throughout the service area (Copper was not detected at the 90th percentile)

SUBSTANCE (UNITS)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH% TILE)	NO. OF HOMES ABOVE AL	VIOLATION	TYPICAL SOURCE
Lead (ppb)	2001	15	0	5	0	No	Corrosion of household plumbing systems; Erosion of natural deposits

<sup>1</sup>There are a substantial number of tests conducted that resulted in no detectable level of contaminants under such headings as Metals, Inorganics, Organics, Synthetic Organics, Volatile Organics, Total Organic Carbons and Radiological.

<sup>2</sup>The MCL for Beta/photon emitters is written as 4 mrem/year. The U.S. EPA considers 50 pCi/L as the level of concern for beta emitters.

<sup>3</sup>Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. During the reporting year, 100% of all samples taken to measure turbidity met water quality standards.

MONTH	(ppm)
JAN	87
FEB	78
MAR	54
APR	31
MAY	34
JUNE	60
JULY	85
AUG	105
SEPT	138
OCT	66
NOV	37
DEC	48

## Hardness of Water

Most households are comfortable with a moderate water hardness level of 61-120 ppm. On average, the degree of hardness in our water is in the soft to moderate range. The water should not contribute to skin dryness or force you to use an excessive amount of detergent or bleach for a load of clothes.

Hardness preference varies from household to household and some consumers decide to install water softeners. The household appliance manuals (such as for water softeners and dishwashers) ask consumers for water hardness measurements in grains per gallon (gpg).

Excessive	> 180 ppm
Hard	121 – 180 ppm
Moderate	61 – 120 ppm
Soft	0 – 60 ppm

**To convert ppm to gpg:** Divide the ppm by 17.1 for the gpg. For example, December 2002 had an average hardness level of 48 ppm (48 divided by 17.1 equals 2.8 gpg).